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ABSTRACT

Using a sociocultural framework to generalize principles about how to work within an emergent reader's zone of proximal development, this study analyzed teacher support and forms of teacher prompts in one-on-one Reading Recovery tutorials with first-grade students at risk of reading failure. The ways that five Reading Recovery teachers supported children when they read a familiar story as opposed to a new story were compared. Results indicated that teachers changed the nature of their scaffolding comments as a function of text familiarity. When students reread familiar texts, teachers became less directive and began to coach the students' attempts to read. In contrast, when students read new texts, teachers responded by increasing their modeling, prompting, and discussing comments. The study discusses how principles of responsive instruction in the one-on-one tutorials might be applied in regular classroom literacy activities. (Contains 23 references, and one table and five figures of data. The coding scheme for scaffolding language in Reading Recovery lessons is attached.) (Author/RS)

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Shelley Wong
Lois Groth
John O'Flahavan
University of Maryland College Park

Sheila Gale
Gayle Kelley
Sheryl Leeds
Jeanette Regetz
Janet Steiner-O'Malley
Arlington Public Schools
Arlington, Virginia

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READING RESEARCH REPORT NO. 17
Spring 1994

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Shelley D. Wong
Lois A. Groth
John F. O'Flahavan
University of Maryland College Park

Sheila Gale
Gayle Kelley
Sheryl Leeds
Jeannette Regetz
Janet Steiner-O'Malley
Arlington Public Schools
Arlington, Virginia

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NRRC - University of Georgia
318 Aderhold
University of Georgia
Athens, Georgia 30602-7125
(706) 542-3674 Fax: (706) 542-3678
INTERNET: NRRC@uga.cc.uga.edu

NRRC - University of Maryland College Park
2102 J. M. Patterson Building
University of Maryland
College Park, Maryland 20742
(301) 405-8035 Fax: (301) 314-9625
INTERNET: NRRC@umail.umd.edu

About the National Reading Research Center

The National Reading Research Center (NRRC) is funded by the Office of Educational Research and Improvement of the U.S. Department of Education to conduct research on reading and reading instruction. The NRRC is operated by a consortium of the University of Georgia and the University of Maryland College Park in collaboration with researchers at several institutions nationwide.

The NRRC's mission is to discover and document those conditions in homes, schools, and communities that encourage children to become skilled, enthusiastic, lifelong readers. NRRC researchers are committed to advancing the development of instructional programs sensitive to the cognitive, sociocultural, and motivational factors that affect children's success in reading. NRRC researchers from a variety of disciplines conduct studies with teachers and students from widely diverse cultural and socioeconomic backgrounds in prekindergarten through grade 12 classrooms. Research projects deal with the influence of family and family-school interactions on the development of literacy; the interaction of sociocultural factors and motivation to read; the impact of literature-based reading programs on reading achievement; the effects of reading strategies instruction on comprehension and critical thinking in literature, science, and history; the influence of innovative group participation structures on motivation and learning; the potential of computer technology to enhance literacy; and the development of methods and standards for alternative literacy assessments.

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Donna E. Alvermann, Co-Director
National Reading Research Center
318 Aderhold Hall
University of Georgia
Athens, GA 30602-7125
(706) 542-3674

John T. Guthrie, Co-Director
National Reading Research Center
2102 J. M. Patterson Building
University of Maryland
College Park, MD 20742
(301) 405-8035

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Allen Wigfield
University of Maryland College Park

Shelley Wong
University of Maryland College Park

About the Authors

Shelley D. Wong is an assistant professor in the Department of Curriculum and Instruction at the College of Education, University of Maryland College Park, where she teaches undergraduate and graduate courses in Teaching English to Speakers of Other Languages (TESOL). As a principal investigator with the National Reading Research Center, her interests include racial, cultural, and language minority students, strengthening home-school connections and dialogic approaches to teaching and research.

Lois A. Groth is a doctoral student in the Department of Curriculum and Instruction at the College of Education, University of Maryland College Park, where she studies early childhood education and emergent literacy. As a research assistant with the National Reading Research Center, her interests include early literacy instruction for high-risk students in the regular classroom and the social contexts of instruction.

John F. O'Flahavan is an assistant professor in the Department of Curriculum and Instruction at the College of Education, University of Maryland College Park, where he teaches undergraduate and graduate courses in language and literacy learning and teaching. As a principal investigator with the National Reading Research Center, his interests include professional development, instruction for high-risk students in the regular classroom, and the social contexts of instruction.

Sheila Gale is a Reading-Recovery-trained, Chapter 1 reading teacher at Oakridge Elementary School and Abingdon Elementary School in Arlington County, VA. She received her B.A. and M.S. from the City University of New York. She has been a reading specialist in the Arlington County Public Schools since 1988. In 1991 she was trained in Reading Recovery and is presently a member of the research team of the National Reading Research Center at the University of Maryland and Arlington County Public Schools. Improving reading instruction with at-risk students is a major concern in her teaching.

Gayle Kelley is a Chapter 1 reading specialist at Patrick Henry School in Arlington, VA. She earned her B.S. in Upper Elementary Education at Radford University, her B.S. in NK-3 at Marymount University, and her M.Ed. from George Mason University. She received training in Reading Recovery in 1992. She has presented sessions at the local, state, and regional levels on parent-home school connections and emergent reading strategies. She helped design and teach the Emergent Reading Strategies Institute as a staff development model for Arlington County Public Schools. She is a member of GWRC, VSRA, IRA, and NRRC.

Sheryl Leeds is a Reading-Recovery-trained, Chapter 1 reading teacher at Glencarlyn School in Arlington, VA. She also serves as the Reading Recovery resource teacher for the county, where she supports teachers that have Reading Recovery programs at their schools. This role coincides with her strong interest in extending Reading Recovery principles into primary classrooms. As a member of the National Reading Research Center (NRRC) project, she helped design an Emergent Reading Strategies Institute (ERSI) as a staff development model for Arlington Public Schools and presents it to teachers of beginning readers. She received her B.S. from Ohio State University in Elementary Education and M.Ed. from George Mason University in Guidance and Counseling as well as an Endorsement in Reading.

Jeannette Regetz is a Chapter 1 reading teacher at Oakridge School in Arlington County, VA. She was trained in Reading Recovery in 1991. Jeannette has a B.S. from Colby College, an M.Ed. from Syracuse University and a Ph.D. from American University. She has presented sessions on parent-home school connections and on emergent reading strategies at the local, state, and regional level. She helped design an Emergent Reading Strategies Institute as a staff development model for Arlington County Public Schools. She is a member of the National Reading Research Center.

Janet Steiner-O'Malley is a reading teacher at Glencarlyn School in Arlington, VA. Her work includes coordinating the language arts program, working collaboratively with other teachers in their classrooms, and teaching Reading Recovery students. As a member of a joint Arlington Public Schools and National Reading Research Center project, she helped to develop and present a 10-part Emergent Reading Strategies Institute that was designed to sustain change efforts begun with the introduction of Reading Recovery to Arlington Public Schools. She received her B.A. at Goshen College in Indiana and her M.Ed. in Reading from the University of Virginia.

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Universities of Georgia and Maryland
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Lois A. Groth
John F. O'Flahavan
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Janet Steiner-O'Malley
Arlington Public Schools
Arlington, Virginia

Abstract. This study analyzes forms of teacher prompts in one-on-one Reading Recovery tutorials with first-grade students at risk of reading failure. It compares the ways that five Reading Recovery teachers supported children when they read a familiar story as opposed to a new story. The study found that teachers changed the nature of their scaffolding comments as a function of text familiarity. When students reread familiar texts, teachers became less directive and began to coach the students' attempts to read. In contrast, when students read new texts, teachers responded by increasing their modeling, prompting, and discussing comments. The study analyzes teacher support using a sociocultural framework to generalize principles about how to work within an emergent reader's zone of proximal development. It discusses how principles of responsive instruction in the one-on-one tutorials might be applied in regular classroom literacy activities.

Despite almost thirty years of compensatory education, problems in minority achievement and failure to achieve educational equity continue to plague the nation (Coleman, 1966; Cummins, 1986). The distribution of knowledge and power among adult members of society begins with literacy education in the elementary school (Luke, 1993). Research has

shown that patterns of school achievement and failure are established early in life; for example, students who are poor readers in first grade remain at the bottom of the class in later grades (Juel, 1988).

A promising program for students at risk of reading failure that has emerged in recent years is Reading Recovery. Reading Recovery is an early intervention program for the lowest performing readers in the first year of reading instruction. Children identified as being in the bottom 20% of the class in reading receive daily 30-minute lessons from a specially trained teacher who provides highly responsive instruction during a number of literacy related activities (Pinnell, Fried, & Estice, 1990).

The Reading Recovery one-on-one tutorial begins with 15 hours of diagnostic work called "Roaming Around the Known." Reading Recovery is based on the premise that emergent readers bring considerable linguistic knowledge to learning how to read. Most six-year-olds come to school knowing a great deal about language; they know almost all of the sounds of the language and they have a vocabulary of 6,000-10,000 words. Rather than first instructing and then assessing what a child has learned, the Reading Recovery teacher assesses first, and then bases her instruction on the prior knowledge and experiences of each child entering the program. By assessing what a child already knows about print and reading, the Reading Recovery teacher builds on what the child already knows, and thus is more able to gear instruction to the child's development. The eventual goal of instruction is to promote in every student a "self-improving system" (Clay, 1985).

The Reading Recovery tutorial is similar to reading a bedtime story. The Reading Recovery teacher and student sit side by side, and read enjoyable, meaningful stories together. The 30-minute tutorial has the following components: (a) reading familiar stories during which the teacher takes a running record of the student's independent reading; (b) working with plastic letters that are scrambled and unscrambled to form words; (c) writing a message or story; and (d) reading a new story. The student takes home an envelope containing a sentence he or she wrote (cut up into words) to practice putting the words into the proper sequence. The student also takes home a book that he or she has read successfully during the day's lesson and re-reads it to an adult at home. In each session, the child successfully reads a new book or a considerable portion of one. Students graduate from Reading Recovery when they have been successfully accelerated (Clay, 1985) to reach the average reading group level in their classes. Reaching this goal generally requires 12-15 weeks, although some children may need as long as 20 weeks (DeFord, Lyons, & Pinnell, 1991).

The purpose of the study described in this report was to characterize the teacher-student interaction in Reading Recovery lessons. By analyzing the types of teacher support in one-on-one Reading Recovery tutorials, we hoped to generalize principles about how to work within an emergent reader's zone of proximal development (Vygotsky, 1978). A better understanding of support in Reading Recovery tutorials might lead to more responsive instruction in other regular classroom activities, such as reading groups, pair work with a buddy,

reading centers, and so forth. Because we were interested in the different ways that teachers' comments supported children when they read a familiar story as opposed to a new story, we transcribed and analyzed only those sections of the lessons that exemplified these differences.

TEACHER SCAFFOLDING AND APPRENTICESHIP PERSPECTIVES ON LITERACY INSTRUCTION

Wood, Bruner, and Ross (1976) first used the metaphor of *scaffolding* to describe ways that a tutor assisted a child during a problem solving activity. Through scaffolding, the tutor (a) motivated the child to participate in working on the task, (b) set the number of task steps according to the ability of the child, (c) maintained pursuit of the goal, (d) marked discrepancies between what the child had produced and the ideal solution, (e) controlled for frustration and risk in problem solving, and (f) modeled an idealized version of the way the activity was to be performed.

The metaphor of scaffolding has come to be associated with Vygotskian approaches to instruction (Bruner, 1985, 1986; Cole & Scribnern, 1978; Moll, 1990; Wertsch, 1985), although Vygotsky never used the term himself. For example, Tharp and Gallimore (1988) developed a theory of teaching as *assisted performance* based on such a Vygotskian framework. They categorized six means of assisted performance: modeling, contingency management, feedback, instruction, questioning, and cognitive structuring. Through modeling, the child learns by imitating the adult's behavior. Contingency management is the means of assisting performance through the use of rewards (such as encouragement, praise, consumables, or privileges) or punishments (such as loss of consumables, loss of privileges, or reprimands). Providing feedback on performance is another way of assisting instruction. Without feedback, no correction or improvement is possible. Instruction assists performance by defining tasks. While too much instruction can impede learning, a certain amount of formal instruction is essential. The teacher's verbal instructions become the self-instructive voice of the learners as they begin to regulate their own learning. Questioning assists performance by asking students to produce a mental operation that they could not or would not perform alone. Cognitive structuring refers to assisting performance by providing a structure for thinking or acting. Whether it be categorizing, naming, evaluating, sequencing, or explaining something, a cognitive structure organizes perceptions in new ways. Tharp and Gallimore (1988) argued that these six ways of assisting performance should be united with Vygotskian perspectives into a guiding theory.

Central to Vygotskian theory is the concept of the zone of proximal development. Rather than measuring competency only in terms of what a child could do independently, Vygotsky also looked at what a child could do with the assistance of a more capable peer or adult. He called the difference between independent performance and assisted performance the "zone of proximal development." Scaffolding between what a child knows independently and what he or she can do through assisted performance (guided by an adult or more

capable peer) constitutes teaching within a student's zone of proximal development (Vygotsky, 1978). An example is a bedtime lap story in which a toddler reads with a parent. Together they hold the book, turn the pages, and point to the pictures. The parent reading the familiar story aloud will pause occasionally, and the child will supply a word. This type of scaffolding enables children to perform at a more capable level. With an adult's guidance, a child's performance precedes her competence (Wertsch, 1985). Through joint activities, adults guide children's participation, gradually transferring more responsibility.

Rogoff (1990) utilized the metaphor of *apprenticeship* to view early childhood cognitive development within a social context. The notion of apprenticeship emphasizes children's active role in their own cognitive development. For example, a novice (the child) attempts to make sense of new situations, while the expert (often, but not necessarily, an adult) plays an important role in arranging and setting tasks and activities for the novice. An apprentice learns not only through joint activity with a single expert, but in a variety of pairings and groupings with other novices and with more experienced, skilled partners.

Rogoff (1990) developed Vygotsky's notion of *intersubjectivity*, which is shared understanding based on a common focus of attention. Intersubjectivity emphasizes that understanding happens *between* people. When two people communicate, the understanding cannot be attributed to only one party. Intersubjectivity becomes the basis on which a child can build a bridge from the known to the new.

To establish *intersubjectivity* or shared understanding with a child, adults may simplify their presentation of an idea to establish a category. For example, adults may state that a whale is a fish or an electrical outlet is "hot" (Rogoff, 1990). Similarly, teachers may scaffold children's reading by introducing unfamiliar vocabulary before reading so as not to divert attention from the meaning of the story.

Scaffolding has important implications for the measurement of intelligence. For Vygotsky, intelligence or cognitive ability should be measured not only as a function of a child's maturational level, but also in relation to instruction or to what the child is able to perform with adult assistance (Vygotsky, 1978). His view of intelligence as being shaped by social as opposed to innate forces is helpful in teaching students who may be marginalized by the dominant culture because of their racial or economic background or because they have been labeled as having learning problems. Vygotsky's zone of proximal development has important implications for developing classroom practices and environments that seek to address issues of equity and to transform the traditional relationships between knowledge and power.

According to Vygotsky, a child develops the ability to categorize, conceptualize, and think about thinking through the development of language. All of these higher order psychological functions are achieved socially through a series of transformations: (a) An operation that initially represents an external activity is reconstructed and begins to occur internally; (b) an interpersonal process is transformed into

an intrapersonal one; and (c) the transformation of an interpersonal process into an intrapersonal one is the result of a long series of developmental events (Vygotsky, 1978, pp. 56-57).

Vygotsky used the example of the gesture of pointing, to show how external operations are internalized through social interaction. A child will first reach for an object. The object, of course, does not respond, but a caregiver responds by obtaining the object for the child. Only after the child grasps the relationship between reaching and the caregiver's response does she develop a true gesture of pointing. Thus, the origin of the gesture of deixis or reference develops through social interaction before the child understands its communicative function. In Reading Recovery, too, pointing at print can serve as scaffolding and can be withdrawn when the child is able to read a passage fluently using "only his eyes" (Clay & Cazden, 1990).

Teachers who view their role in terms of scaffolding or supporting an apprenticeship focus attention on the active role of both novice and expert in learning. Working within a child's zone of proximal development requires that the teacher take the student's prior knowledge and experience as the starting point for instruction. Through the assistance scaffolding provides, children are able to perform increasingly complex operations independently: They can perform beyond their normal competence or bridge from the known to the new by interacting with a supportive adult. An apprenticeship is further developed through the establishment of intersubjectivity or shared understanding between the novice and the expert. Through a series of transformations over a period of time, external activities become reconstructed internally in the mind and interpersonal processes become internalized.

VYGOTSKIAN PERSPECTIVES ON READING RECOVERY

Although Reading Recovery was not developed using Vygotsky's theory, it may be interpreted within a Vygotskian framework (Clay & Cazden, 1990; Gaffney & Anderson, 1991). Reading Recovery takes the position that children who are identified as being at the lowest level in their class during the first year of instruction should be assisted immediately rather than waiting until they are more mature and "ready" to read.

Reading Recovery lessons are designed to develop within students a self-improving system (Clay, 1985; Pinnell et al., 1990). The teacher's role is to identify the student's zone of proximal development, using various levels of text, and to provide appropriate materials and scaffolding for the purpose of constructing the self-improving system. This goal requires that teachers read with children and begin to see reading as children do. In addition, teachers must help children gain a new perspective on their knowledge of reading that includes strategic knowledge. Skillful use of scaffolding taps the child's existing knowledge and extends that knowledge—whether it be letter-sound connections, the structure of language, or the meaning of a story. Reading Recovery teachers make use of the redundancy of natural language to teach students to construct meaning

from three text-based cueing systems (visual, structural, and meaning).

To date, no study has systematically classified the various types of scaffolding provided in Reading Recovery tutorials. The present study set out to do so. We wanted to examine teachers' comments aimed at scaffolding children's reading as the teacher transferred more and more responsibility to the child. We were interested in documenting how teachers' comments aimed at scaffolding were a function of children's familiarity with texts. This information would enable us to study the dynamic relationship between the teachers' scaffolding in assisting a child to read a familiar text and their scaffolding in assisting a child to read a new text.

METHOD

The present study was part of a larger research project. The goals of the larger project are (a) to determine key instructional principles that would guide systematic and comprehensive instructional reform in the regular classroom for students placed at-risk of reading failure, and (b) to design a comprehensive instructional framework grounded in these principles.

The project brought together a collaborative research team of school-based and university-based teacher researchers that included first- and second-grade classroom teachers; eight Chapter I teachers, five of whom were also Reading Recovery teachers; three administrators; two university professors; and two graduate students. The theoretical perspective of the study and the larger project is the sociocultural approach to literacy instruction, teacher scaffolding, and mediation described earlier in this report.

Participants

Five Reading Recovery teachers from four northern Virginia elementary schools participated in the study. Over 40 languages are spoken in the communities served by the school system, although the majority of bilingual students come from homes in which Spanish is the dominant language. Other minority languages include Vietnamese, Cambodian, Chinese, Urdu, Farsi, Tagalog, Korean, and Arabic. The number of students for whom English is a second language is increasing in the district.

All of the Reading Recovery teachers involved in the study had successfully completed a year-long training program to become Reading Recovery teachers. All held graduate degrees in reading prior to this training. All of the regular classroom and Chapter 1 teachers were experienced, having taught between 13 and 27 years (mean = 18 years). The Reading Recovery teachers had used that approach from one to four years. All of the Reading Recovery teachers had taught as regular classroom teachers, reading teachers, and Chapter 1 teachers.

Procedures

In the spring of 1992, the teachers and their students were observed and videotaped as they engaged in Reading Recovery tutorials. Each teacher was videotaped with two students. Each student was taped for two consecutive days and

again three weeks later, resulting in a database of 25 videotaped lessons.

The reading levels for the students during data collection for this study ranged from 11 to 18 (Scott Foresman Reading Recovery Testing Packet, 1979), indicating a range in the primer 1-2 level. (There are 20 Reading Recovery levels. The first three Reading Recovery levels are roughly equivalent to a pre-primer. If a first-grade class reads three soft pre-primers in the first semester, this is roughly equivalent to reading the first nine of the twenty Reading Recovery levels.) Reading Recovery students, who are selected from the bottom 20% of their class, successfully graduate from the program when they have reached the average reading level of the class. This average level varies from class to class and year to year. The level of difficulty increases as the children in the class progress from being emergent to early to fluent readers through the school year. For example, a class may have an average reading level of 10 in January, but an average of 18 by June.

Two portions of each 30-minute tape were selected for transcription, the interaction between teacher and student reading a *familiar* text and the interaction between teacher and student reading a *new* text. Reading familiar texts and reading new texts were salient contexts for informing regular classroom instruction, so we wanted to see the changes in mediation between them.

A coding manual was developed to analyze teacher-student interaction through the coding of the first five tapes. The categories emerged after multiple passes through the complete data set. The resulting categories reflected five distinct types of scaffolding comments:

1. **Telling** comments are made within the reading act to provide the reader with a word or an explanation of structure or meaning.

2. **Modeling** involves the explicit demonstration of an act with the intention of getting the student to employ the same behavior.

3. **Prompting** focuses the student's attention on visual, structural, or meaning cues available in the text and scaffolds oral reading performance. This larger prompting category was subcategorized into visual, structural, meaning, and oral reading dimensions.

4. **Coaching** gives the reader perspective by taking him or her outside the reading act. It either directs the lesson or focuses on how the student performs or responds. This larger coaching category was subcategorized into visual, structural, meaning, oral reading, and procedural dimensions.

5. **Discussing** is talk about the text that occurs during the story introduction or as the child reads the book and is intended to focus attention on the meaning of the story.

Two raters coded a randomly selected 20% sample of the transcribed lessons (n = 5). Overall agreement for categorizing comments

Table 1. Mean Proportion of Modeling Comments for Each Teacher

	Teacher				
Text	1	2	3	4	5
Familiar	2.2	0.1	2.0	10.1	0.3
New	0.5	9.2	6.6	13.1	2.8

was .90. (For details of the coding scheme, see the Appendix.)

RESULTS

The first step in our analysis was to determine if the teachers differed significantly in their scaffolding comments. Five 2-way analyses of variance (teacher × text familiarity) conducted on each type of scaffolding comment yielded only one categorical difference attributable to teachers' individual differences—*modeling* ($F = 9.819$; $p < .0001$). The mean proportion of modeling comments for each teacher, as a function of text familiarity, are provided in Table 1. However, it should be noted that modeling comments, on average, accounted for less than 3% of the discourse when students read familiar texts (range: 0.1 - 10.1%) and less than 7% when students read new texts (range: 0.5 - 13.1%). Furthermore, analysis of the teachers' inclusion of modeling in their lessons revealed little qualitative variation. To model fluent reading, all invoked choral reading more than other types of modeling. All other comparisons were not statistically significant.

Figure 1 depicts the mean percentage of teachers' scaffolding comments made while students read familiar and new texts. Several trends can be seen in these data. First, text familiarity influenced the degree to which teachers scaffolded the reader-text transaction. This trend is not surprising; one would expect that students read familiar texts with more fluency and independence than they did new texts. Approximately 50% of all of the comments made while students were reading familiar text were attributed to teachers providing some form of scaffolding. The remainder of the comments were attributed to students' questions, responses, and oral reading, and to teachers' procedural comments. When students encountered new texts, the proportion of teachers' scaffolding comments increased by 15% to 64.4% of the discourse. A two-tailed t-test confirmed the fact that these differences were statistically significant ($t = 14.725$; $df = 49$; $p < .0001$).

Second, the distribution of teachers' scaffolding comments varied as a function of text familiarity. Figure 1 also illustrates the shift in the distribution of teachers' telling, modeling, prompting, coaching, and discussing comments as a function of text familiarity. This finding suggests that these teachers supported the reader-text transaction differently depending on whether students read familiar or new texts.

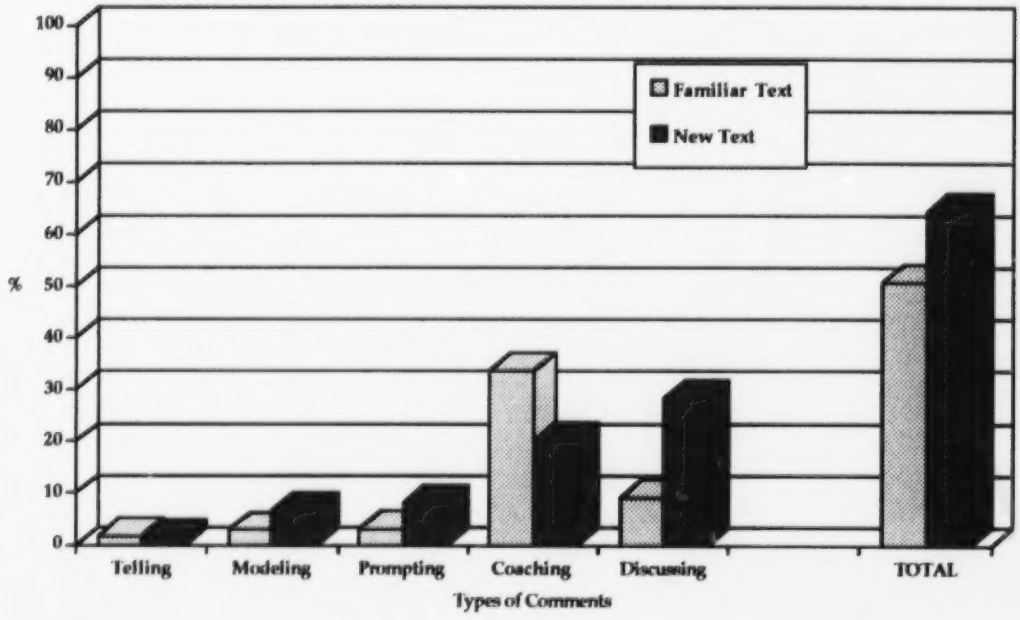

Figure 1. Mean Percent of Teachers' Scaffolding Comments by Type

Quantitative and qualitative data pertaining to each category will be described separately in the subsequent sections.

Telling

When an emergent reader shares a reading with a more capable reader, each plays a role in moving the activity toward a successful conclusion. In those cases where the text is new or beyond the emergent reader's ability to read independently, the more capable reader may tell the less capable reader information that sustains meaning (e.g., pronunciations, meanings, interpretations, labels, etc.).

As Figure 1 illustrates, the five Reading Recovery teachers did little telling while scaffolding students' attempts to read familiar (1.7%) and new texts (1.3%). Figure 2 depicts the distribution of types of telling comments found in the lessons. Most telling comments focused on visual cues in the text, regardless of text familiarity (92.4% familiar; 89.5% new). Typically, when a student could not recognize or read a word while reading a familiar text, the teachers provided students with the pronunciation of the word:

S: [reads] "I wish I had a big tail. Please..."

T: *That word is "perhaps."*

S: "Perhaps that Magic Man can give me a big tail."

Subsequent interviews with the teachers revealed a number of reasons for these telling

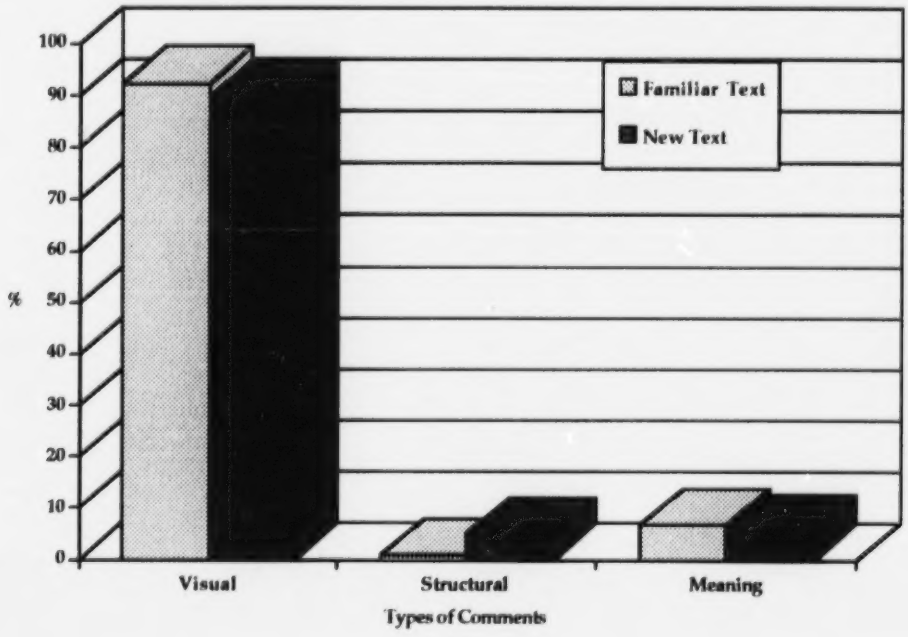

Figure 2. Mean Percent of Teachers' Telling Comments by Type

behaviors: to maintain fluency while reading familiar texts, to save instructional time by providing pronunciations of low-frequency words, and to reduce a student's struggle with words that had proven to be too difficult for him or her in earlier instructional situations.

The pattern of teachers' telling comments shifted when students read new texts. Reading Recovery teachers are trained to foster students' independent use of strategies through careful prompting (Clay, 1985); thus, one would expect these teachers to prompt first and then tell when all else fails. As illustrated in the following excerpt, the teachers in this study prompted students to attend to all of the relevant cues for identifying a difficult word; when this failed, the teachers simply told the student the word:

T: Why don't we try it at the beginning again? Because I think we're missing some of the meaning.

S: "He thinks he will clean the house so that if children—"

T: Yeah, he's cleaning the house so that what?

S: "Want to visit them too, it will look very fine."

T: Good job. That word means "very," but if it were "very" what would you see at the beginning?

S: "ff..."

T: "Very." Say it slowly.

S: "Very."

T: What would you see at the beginning?

S: A *v*.

T: A *v*. Is that a *v*?

S: No.

T: It means the same thing. This is "really."

S: "R...really."

T: *This is "really, really."*

S: Really fine.

T: Very good. We're going to go back to the beginning and read together.

Modeling

The Reading Recovery teachers provided explicit verbal modeling (e.g., "Good readers look back in the text") and nonverbal modeling (e.g., turning a page from right to left). Emergent readers may learn a great deal about reading behavior when it is modeled by a more capable reader. However, for the purposes of this paper, we focus on explicit verbal modeling because most of the interactions between these teachers and students were verbal and because a large portion of classroom-based strategy learning is mediated through social discourse.

Teachers in this study provided explicit verbal modeling infrequently (Figure 1). On average, they modeled less frequently when students were reading familiar texts (2.9%) than when they were reading new texts (6.5%). A two-tailed t-test revealed these differences to be statistically significant ($t = 20.949$; $df = 49$; $p < .0001$).

The only explicit verbal modeling observed, regardless of text familiarity, occurred in the form of choral reading. For the most part, teachers engaged students in choral reading after extended prompting, when students' fluency on a given passage continued to be unacceptable:

S: [reads] "Dan and Carl made a tent on the porch. They ate sandwiches and had more cherry drink. It rained all night, but Dan and Carl didn't get wet. They were as-...asl-..."

T: What would make sense there? Start again and think about what would make—

S: "They were..."

T: What you did was good. Say this part and then go on to the next part.

S: "As-...as-..."

T: What are they doing in here, Genevie?

S: Sleeping.

T: So what would make sense there?

S: "Sleep."

T: Let's read it.

S: "They were sleep in their tent on the porch."

T: So what were they doing? "They were...a-..."

S: "Sleep."

T: Right. Read it again.

S: "They were asleep in their tent on the porch. They were asleep...they were..."

T: *Let's read this page together.*

T & S: [reading together] "But Dan and Carl didn't get wet. They were asleep in their tent on the porch."

T: Um hum.

At times, the teacher would stop reading aloud during a choral reading at the place where the initial breakdown in fluency occurred in order to assess the effectiveness of previous attempts to scaffold a student's performance. In this next excerpt, for example, the teacher leads a student back to a difficult section in the text and the two read it chorally. As they approach the place in the text that proved difficult for the child, the teacher's voice trails off, allowing the student to complete the reading independently:

T: Let's read this together.

T & S: "The Little Knight."

T: We're just gonna read a little bit of it, 'cause you did a good job.

T & S: "Once upon a time, a King and Queen lived in a big old castle. The King and the Queen were sad because their castle was so cold. Sometimes the Queen had to put on a blanket to keep warm.... [later in the reading] ...Every night the dragon sat in his cave on the top of the hill and he—"

S: "—*roared.*"

T & S: "The King and the Queen didn't know it, but the dragon was sad, too. Everybody was—"

S: "—*afraid*—"

T & S: "—of him. No one came to see him. He was always—"

S: "—*lone...lonely one.*"

T: That makes sense, you said "He was always a—"

S: "Alone."

T & S: "That's why he was sad. That's why he—"

S: "—*roared. Sometimes he was so sad he cried.*"

T: Yeah...

In a few instances, these Reading Recovery teachers provided modeling on pronunciation and phrasing; often, this kind of support was provided for ESL students:

T: That was nice. That was easy for you, isn't it, wasn't it?

S: [inaudible]

T: Even without your fingers! When I pulled your finger away, I think I made something happen. But I want to double-check this, all right? Um. You said here that Mrs. Trim said "That's what we get!" Can you see something [T covers the bottom of the text] that doesn't fit?

S: "Will?"

T: "We'll"

S: "We'll?"

T: *"That's what we'll get."* It means "we will." We say "we'll" when we see this word, okay? All right.

Prompting

In order to read familiar and new texts well, an emergent reader must learn to coordinate all of the cues available in the text when constructing meaning. As Clay put it, emergent readers must develop a "self-improving system" (Clay, 1985). More capable readers prompt emergent readers to attend to different sources of information at appropriate times. Learning to provide timely and unambiguous prompts that focus a student's attention to visual, structural, and meaning cues and help them to marshal salient knowledge is a major feature of Reading Recovery training. And, as the teachers in this study stated repeatedly, providing appropriate prompts is one of the most challenging aspects of creating effective lessons.

As expected, teachers prompted students more often when students encountered new texts (8.2%) than when students reread familiar texts (3.2%). A two-tailed t-test revealed these differences to be significant ($t = 21.166$; $df = 49$; $p < .0001$). Prompting episodes varied in length and character. In some episodes a single prompt resulted in successful reading; in other episodes extended prompting occurred before the student successfully made sense of the text, or the teacher simply read the difficult section for the student (i.e., telling).

Whether the teacher initiated these extended episodes with a meaning, visual, or structural prompt, and whether other scaffolding comments were involved (e.g., coaching), there was a clear attempt in nearly every episode to focus on meaning. For example, in the following excerpt, the teacher responds to the student's miscue on the word *slid* with a meaning prompt. The teacher eventually moves to a focus on visual cues ("He sl-"). After a close approximation from the student ("slide"), the teacher provides the correct form:

S: [reads] "The wolf said down the chimney—

T: Does that make sense to you? "The wolf said down the chimney"? What would make sense there? Try that one more time. What did he do? How did he get down to the bottom? "He sl—"

S: "Slide. The wolf said—the wolf slide down the chimney."

T: "Slid...slid down the chimney." That was a good try. I liked the way that you tried to fix that up....

Figure 3 portrays the distribution of teacher prompts that focused students' attention on structural, visual, and meaning cues and on students' oral reading performance. Aside from the increased frequency at which these teachers prompted students when they read new text, there were no qualitative differences in the ways that teachers provided prompts as a function of text familiarity. Teachers tended to encourage attention to the visual and meaning

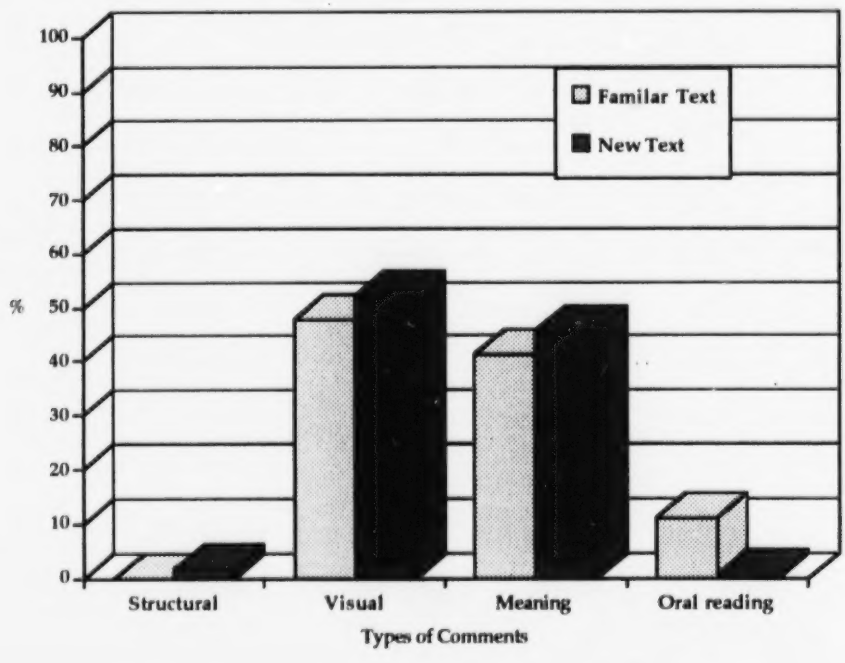

Figure 3. Mean Percent of Teachers' Prompting Comments by Type

cues in the text more often than to the structural cues or to the students' oral reading performance.

In terms of *visual* prompts, teachers fostered strategies for using sound-symbol associations and other writing and spelling conventions when students encountered words they could not decode independently. In the following excerpt, the teacher helped the student see familiar patterns in an unfamiliar word by using a finger to isolate the familiar pattern *no-* in *nobody*:

S: [reading] "Stanley ate and ate and..." [S stops and stares at the word "nobody"]

T: *If you cover up part of that word, would you know it? What's the first part say?*

S: [covers "-body"] No-. "Stanley ate and ate and nobody was cross."

Teachers' *meaning* prompts focused on narrative events, pictures, related experiences, and so forth. Teachers frequently asked students "What would make sense?" as a way to prompt them to consider meaning. In this excerpt, the teacher uses meaning-based prompts as the student read a new text and stumbled on the word *away*:

S: "Poor Fred. He was sad. 'Go...'"

T: *What would make sense there? Look what she's doing*. What does she tell him to do?

S: Go.

T: *What is she doing here?* [points to the picture]

S: Sweeping.

T: *And what's she standing in?*

S: Water.

T: *So what do you think she's going to tell him? Think about what would make sense.*

S: Go.

T: *Does she want him standing there?*

S: No.

T: So she tells him to go—

S: —away. "Go away, Fred!"

T: Yes.

These teachers also prompted students' *oral reading performance*. However, such prompts occurred most often when students read familiar texts (11% of the total prompts). Given the students' repeated exposure to the familiar texts, the teachers expected more fluent reading and prompted it. In this excerpt from a familiar reading segment, for example, the teacher noted that the student could read a part of the text with better phrasing and intonation. She prompted the student to read character dialogue in a way that might better reflect character mood:

S: [reads] "'Wife,' he called. 'Come here and see this big g- bean. Please help...help me pick it.'"

T: *Now pretend you're the old man and you're calling your wife. How are you gonna say that? Say it "for"—in his voice. Can you try that for me? What's he gonna say?*

S: Oh. I can talk like a man.

T: Okay. You're gonna try that?

S: [reads in a deep voice] "'Come and wit- with th- this big green bean. This big bean, please help me pick it.'"

Coaching

Coaching comments surfaced at various times throughout the lessons. In a majority of cases, the teachers participated as coaches after students finished reading a text. Typically, as the Reading Recovery teachers observed students read, they noted instances in which students read well and where students could benefit from more instruction. Teachers shared their evaluation, returned to specific places in the text, asked the students to articulate their reasoning, and provided instruction. The following excerpt illustrates this form of coaching:

S: [reads] "'Then I'll huff and I'll puff and I'll blow your house in,' called the wolf, the wolf. So he huffed and he puffed and he blew the house in."

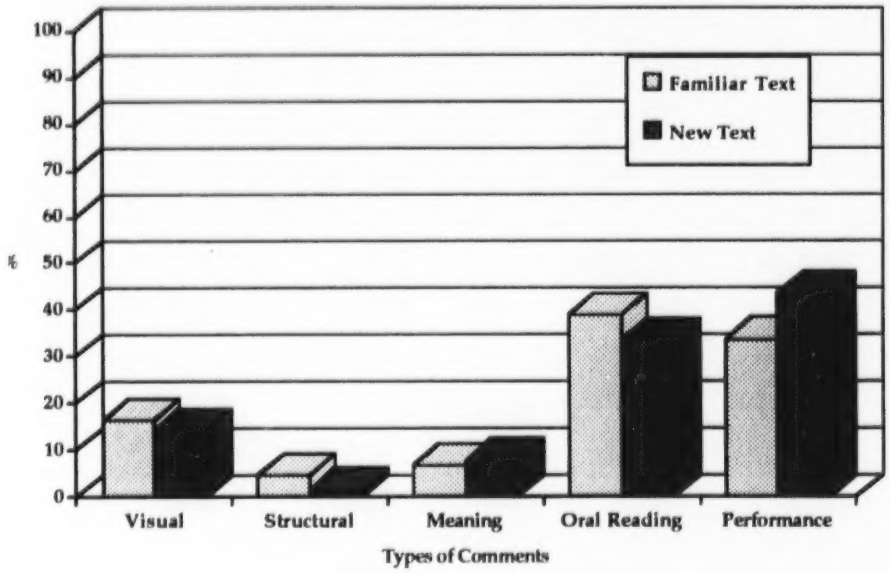

Figure 4. Mean Percent of Teachers' Coaching Comments by Type

T: Okay, good, José. That was really good reading. You know what I liked that you did back here? I liked the...when you read at the beginning of the story, you said "The first little pig built the house" or "built his house" and you went back and you went back again and you went "The first little pig" and you changed it to the word "made a house." And I like...I think you...what did you think? How come you changed that word "made"?

S: *M*.

T: 'Cause you saw the *m*. Okay. So you knew that the first little pig, that word wasn't *built* because the word didn't look right. It didn't look like *built*. Right? And you saw that *m* and you remembered that it might be *made*. Good job. That was really good. The other thing that I liked that you did was on this page when you read about how the big bad wolf went to the house. I noticed how you were reading. You went "The big bad wolf" and you got your mouth ready and you looked at the picture to check and you looked back at the word again and you went, "Went to the house of the first little pig." I liked how you double-checked to make sure it made sense.

In fewer cases, the teachers provided coaching as the students read. Typically, such

coaching occurred when the student experienced great difficulty. The teachers' intent was to help students maintain fluency, develop confidence, and gain a new perspective on their reading performance:

S: [S reads] "The people ran to get the p... pot ...the water, and the stones. Then they got three big...fire. Then, then they got, got the three...then they got the th- t- three big flat stones.

T: You said here, "The people ran to get the pot, the water, and the stones. Then they got the three big flat stones." Does that sound right? [S shakes head]. No, it's not making sense. Where do you think the hard bit is? What needs to get fixed?

S: [inaudible]

T: All right.

S: "Sticks."

T: Now, you called this "stones" and this one "stones." Are they the same? Which one is "sticks"? Which one is "stones"?

S: [S points to the text] "Sticks."

T: All right. Let's read that together.

T & S: "The.... The pi—people ran to get the pot of water and the—"

S: "—sticks."

T & S: "Then they got the three big flat—"

S: "—stones."

T: Good fix.

Teachers provided more coaching comments when students encountered familiar text (33.8%) than when students read new text (20.1%). A two-tailed t-test revealed these differences to be statistically significant (t = 14.968; df = 49; $p < .0001$). Figure 4 depicts the distribution of coaching comments focused on students' use of cueing systems, students' oral reading fluency, and students' overall performance.

Teachers coached their students' use of the cues similarly whether their students were reading familiar or new texts. Coaching comments that focused on the visual cueing system enabled both teacher and student to gain perspective on students' knowledge and strategies. The following excerpt illustrates how the teacher, as coach, helped the student gain perspective on what the student accomplished as a reader and how a particular strategy could prove to be beneficial in the future:

T: How come you looked back over there? I didn't understand that. What did you do?

S: I looked back over here because I saw the two *the's* and I thought that there...

T: *Did you know the word "the"?* Did you have to look back?

S: I thought it was *a*.

T: Oh, okay. *So you were just checking to make sure. You—we can do that sometimes. We look back at the page before it to see if that word was there.*

As students read new and familiar texts, teachers in this study prompted them to use

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meaning cues infrequently. Typically, however, meaning cues served to make students' thinking and actions visible to both teachers and students, to increase students' self-awareness, and to remind students of the utility of a specific strategy:

T: *How did you figure that out*?

S: I looked at the picture with the apple.

T: *Does that help you sometimes*?

S: Yes.

T: *Okay, so looking at the picture is a good thing to do*.

Coaching comments that focused on students' oral reading and overall performance represented the largest number of the coaching comments. The teachers in this study provided a few more comments focused on students' oral reading while they read familiar texts than during the reading of new texts, but the difference was not statistically significant. They explained that this finding was due to their higher expectations for fluency when rereading familiar texts. In the next excerpt, for example, the teacher waits for a natural break in the text to coach the student on his oral reading performance. In this instance, she relates her perception of the student's mental processes and selfcorrection strategies and her evaluation of his oral reading performance:

S: [reads] "But first I'll make the tree so...so I can find it again."

T: *Good reading*. And we stop there. I think that we even read a little more than where we stopped yesterday. *That was very nice. Oh! I like how on this page right here, you started to say, "The elf took the pot, um, and I think you were going to say the pot of gold. But then you realized, "Wait a minute! They don't have a pot of gold." Then you went back and you said the elf took Grumble to a—*

S: —big tree.

T: Okay. *I liked the way you fixed that. That was very good*. Did that look like pot? That word *big*? No. *And so I think you went back* and you thought that word is pot. And it didn't look like pot, *so you made it, you read it again*,and you got *big*.

Discussing

Our analysis revealed that Reading Recovery lessons are focused, shaped by the purpose of accelerating students' abilities to read increasingly challenging texts autonomously. In general, therefore, the bulk of the text-related talk is a combination of the student attempting to read independently and the teacher responding to those attempts. This focused talk differs from the discourse typical of traditional classroom instruction, such as the recitation script in reading lessons (Mehan, 1979, 1991) and reading group discussions (O'Flahavan, Hartman, & Pearson, 1988). At times, the talk became a conversation on topics such as the story, visual cues, and students' related prior knowledge.

The proportion of teachers' discussing comments increased significantly when students read new texts (28.1%) compared to when they read familiar texts (9.1%). A two-tailed t-test revealed this difference to be statistically significant ($t = 21.899$; $df = 49$; $p < .0001$).

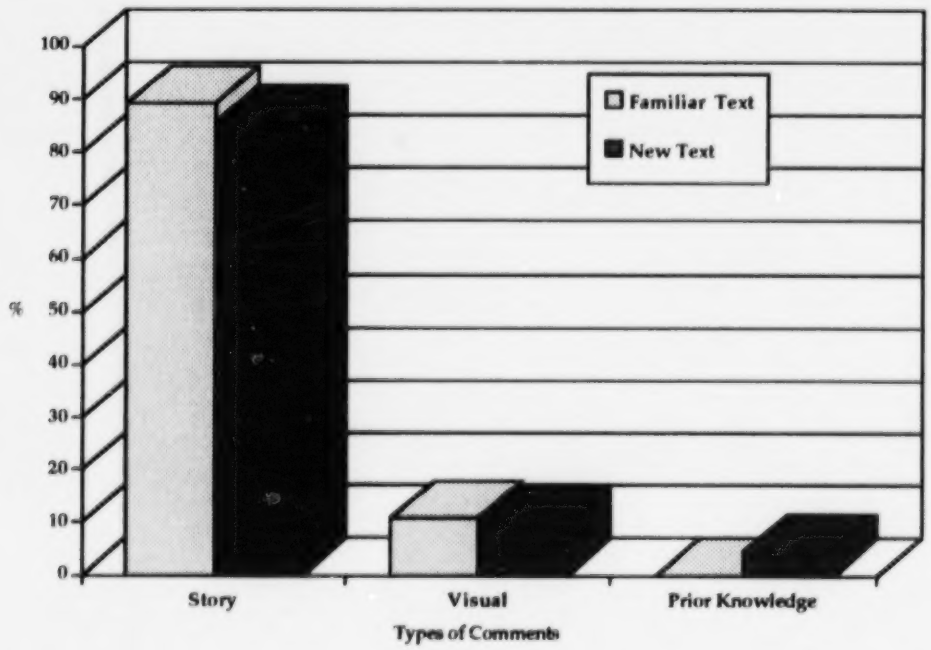

Figure 5. Mean Percent of Teachers' Discussing Comments by Type

While most of the discussing comments focused on aspects of the story (Figure 5), familiarity of texts influenced the way that these Reading Recovery teachers and their students talked about the story. When students read familiar texts, discussion focused on students' recall of events. For example, the teacher and student in this excerpt searched the text for the student's favorite part of a familiar story. The teacher engaged the student in discussion of what happens before and after that favorite part and why he considered it his favorite part:

T: OK, *so what part did you like in that story? In* Stanley Goes to School?

S: I said the map.

T: *Oh, you liked the map. Right. I know you like the map. Yeah, that was a good part.* Let's read where he goes up the steps and down the steps and he goes to all those places.

S: He—

T: *He goes all around. Right. Up the steps and down the steps.* And then to the—Where does it say "trash can"? Right there. Uh-huh. *Then where does he go?*

S: To the spider.

T: *To the spider and through the—*

S: —library.

T: *And then through the door into the—*

T & S: —*library*.

T: OK, now let's find those words. And we'll read that part, because that's the part you like. [T and S begin to search text]

S: Uh-huh.

T: OK?

S: Not the part—

T: Where is that part? You find it.

S: Let me find the.... I like it when he's at the park.

T: *Oh, you like it when he's at the park?*

S: Yes. Right there. That's the part I like.

T: *OK*.

S: [reads] "They went out the gate and over the road, down the...and down the street. 'Here you are. Home at last,' said Mom."

T: What did she ask him?

S: "Here you had?"

T: Is that what she said? What does Mom say to Stanley?

S: "Here you..."

T: *After all those things, after he went out the gate, and over the road, and down the street.* What does she ask him? She says, "Are..."

S: "You hungry?"

T: Right.

On the other hand, when students read new texts, most of the discussion occurred during the teachers' introduction to the new books. Typically, the teacher led this introduction to familiarize the student with the story line and with new pictures and words that the student was about to encounter. As seen in this excerpt, the teacher engaged the student in collaboratively predicting the narrative:

T: [holds book in front of S and begins to turn pages slowly] This is a story about two children and their mom, and in this story, like in our other story, they don't say "mom." They call her "Mum." Remember, 'cause this is written from another country. So they call her "Mum." Well, we have two children. We have Ned and Lottie. *And guess where they want go or at least where Lottie wants to go? She wants to go walk in the what?*

S: Grass.

T: Yeah. And Ned, he doesn't want to go. *You know why? You think he wants to get his feet wet?* [S shakes head] I don't think so either. He doesn't like the wet grass. But Lottie doesn't mind that. And Mum doesn't mind either. So she went on. OK. *But did he go? Did Ned go? What's he doing there?* [T points to picture]

S: Standing.

T: Yeah. Do you think he's going to go? They're waving goodbye, 'cause I think they're going to leave him. They're gonna go without him. Do you think he wants to be left behind? [S nods] You do? *Let's see what happens on the next page. Where's Ned now?*

S: In the wet grass.

T: In the wet grass!

In other cases, teachers adopted a more conversational style while introducing the new story to the student:

T: Our new book for today is about tents. *Have you ever made a tent with your sisters?*

S: [S holds book and reads title on book cover] "Tents."

T: And your brother? Hmmm?

S: [S turns to title page and reads title] "Tents."

T: *Have you ever made one in the yard?*

S: Oh, a tent? No.

T: You never have? Well, these two boys made a tent in their backyard.

S: "Tents."

T: *What did they use? Can you tell?*

S: Ummm...

T: What did they do?

S: Blankets.

T: They used blankets. *And what did they do with the blanket?*

S: Ummm...they put it up and bury the stick and hold it up.

T: Well they...you see this? [T points to picture.] *What's that? Can you tell what that is?*

S: Rope.

T: It's a rope, and they tied it to the trees, didn't they?

S: Uh-huh.

T: *What do you think they want to do? They're talking to their father. What do you think they would like to do?*

S: Go to sleep there.

T: Ahah. Let's see, is that what they wanted to do?

S: Yes.

T: Um hum. And they took a snack with them, didn't they? They took some cherry drink—

S: —They start eating—

T: —They ate. *And then...what happened in the middle of the night? Can you tell what this is?*

Coordinating Scaffolding Comments

The scaffolding comments described thus far did not occur in isolation. On the contrary, teachers' prompting, coaching, discussing, modeling, and telling comments occurred dynamically as the teachers attempted to find the appropriate support for the student at the right time.

For example, in the following interaction the teacher and student were in the middle of reading an unfamiliar text when the student happened upon a challenging section. We have labeled each comment to illustrate the way that the teacher used a variety of prompts to first locate the student's confusion and then to scaffold the student's reading within his or her zone of proximal development.

S: [reads] "...keep his promise. He had no... no...note...

T: You think it's, it looks like "note" 'cause there's a *t* in it (*coaching-visual*), but we wouldn't say that (*coaching-visual*). That doesn't sound right (*coaching-visual*). "He had note" (*coaching-visual*) "He had... (*coaching-visual*)

S: "No..."

T: What didn't the elf do? (*discussing-story*). "He had..." (*coaching-visual*)

S: "Nnn..."

T: Did he take off the scarf? (*prompting-meaning*) Okay, let's read it. (*coaching-performance*)

T & S: "He had—"

S: "—no..."

T: "He had nnn..." (*prompting-visual*)

S: "Not..."

T: Good. (*coaching-oral reading*)

S: "...take, taken—"

T: Good. (*coaching-oral reading*)

S: —"Grumble's scarf off the tree."

T: Good reading. (*coaching-oral reading*)

S: "He had a pot, a, he had..."

T: It looks like pot. (*prompting-visual*) You're right. (*prompting-visual*) It kind of does. (*prompting-visual*) But pot wouldn't make sense. (*prompting-meaning*) He had pot all the red scarves on the tree? (*prompting-meaning*)

S: "Put a red scarf on each tree."

T: Good job. (*coaching-oral reading*).

CONCLUSIONS

Our analysis of five Reading Recovery teachers' comments during 25 lessons revealed that about half of the discourse in these lessons can be attributed to teachers' scaffolding comments. High levels of scaffolding were in evidence as students read familiar texts and statistically significant higher levels emerged when students encountered new texts. While this dimension of Reading Recovery lessons has not been systematically linked to individual outcome measures in this study, it is likely to be a major contributing factor to the developmental progression exhibited by students in other studies (cf. Pinnell et al., 1988).

The proportional distribution of these scaffolding comments also suggests that the teachers changed the nature of their scaffolding as a function of text familiarity. As students reread familiar texts, for example, teachers became less directive and began to coach the students' attempts to read. These teachers offered comments designed to give readers a new perspective on their oral reading and overall performance. In contrast, when students read new texts, these teachers responded by increasing their modeling, prompting, and discussing comments. They actively shared the experience of reading with the students. They invited students to read chorally as a way of modeling fluency, prompted students to attend to visual and meaning cues, and discussed the story line.

This study has several implications for those who want to improve early literacy instruction in the regular classroom. First, the notion of prompting students to attend to the three cueing systems and to have students develop a self-improving system is not con-

sistent with current instruction in the regular classroom. Marie Clay speaks in terms of "acceleration" (Clay, 1985). Regular classroom instruction often focuses narrowly on sound-symbol correspondences—not on the dynamic relationship between the structural, visual, and meaning cueing systems. The teacher scaffolding behaviors documented in this study suggest that through a number of scaffolding roles, regular classroom teachers might help students develop a self-improving system. However, since one-to-one tutorials on a daily basis are difficult to manage in the typical classroom, innovative instructional adaptations may need to be explored.

Second, developing regular classroom instructional routines and methods that foster self-improving systems requires that students become interdependent before they become independent. Most teachers want their students to be able to read independently, to choose texts that fit their interests and abilities, to monitor recoding and comprehension strategies as they read, and to know how to respond to the reading appropriately. Traditional teaching practices, however, often do not acknowledge the influence of the social world on independent literacy development. Future classroom interventions will require social support in the form of more capable peer and teacher scaffolding.

Regular classroom teachers will need to learn how to alter their instructional stances depending on their students' familiarity with texts. Teachers trained in Reading Recovery seem to know from moment to moment what text to focus on, when and how to prompt, when to tell, when to coach, and when to allow readers to direct their own reading. Learning to teach within a student's zone of proximal development enables a teacher to determine with some confidence what text will be challenging enough and when each scaffolding behavior is appropriate. There are times when unfamiliar words or phrases are outside of student's ability to comprehend, even with the support of a more capable peer or teacher. There are times when one might expect a child to stumble on a word, yet, with some self-correction, he invokes appropriate strategies to recode the word. Understanding how to respond in these situations requires that the regular classroom teacher construct teaching events that make it possible to identify the upper and lower boundaries of each student's zone of proximal development. Traditional small group reading instruction, independent pencil and paper tasks, large group Big Book activities, and a variety of literature response activities may not provide enough mutual engagement between teacher and student for the teacher to identify these boundaries. Although many experienced teachers have learned intuitively to make the distinctions central to Reading Recovery, many others will need to develop new skills in interacting with students during reading lessons.

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APPENDIX

Coding Scheme for Scaffolding Language in the Reading Recovery Lessons

Prompting (P) Comments designed to focus the student's attention on the visual, structural, or meaning cues available in the text and to scaffold oral reading performance.

Visual (Pv) Comments that focus the student's attention on the text at the word level.

Student miscues, reading "house" as "home." Teacher says, "If this word were home, *what would it have at the end?" Student says, "M," then reads "house."*

Structural (Ps) Comments that focus the student's attention on structural elements in the text.

"See how this is written kind of funny (referring to italicized print in the text). They want you to say it a bit louder."

Meaning (Pm) Comments that provide meaning cues.

Student is reading "Stop, stop, come..." and pauses, unable to read the word "back." Teacher says, "What does he (main character) want them (other characters) to do?" Student replies, "Come back." Teacher asks, "Does that make sense?" Student reads, "Stop, stop, come back."

Oral reading (Por) Comments that focus on oral reading performance.

Student pauses. Teacher asks, "Are you stuck? What are you going to do?" Reader decides to look for the word on another page.

Coaching (C) Comments designed to give reader perspective by taking him or her outside the reading act. They either direct the lesson or focus on how the student performed or responded.

Visual (Cv) Comments that focus on the student's performance at the word level.

After student has read, the teacher turns back to a spot where student miscued. Teacher says, "There was a word that you had trouble with. See if you can find the word on this page."

Structural (Cs) Comments that focus on the student's performance at the sentence structure level.

After student has read, the teacher draws attention to a question mark at the end of a sentence and says, "What did you see at the end of that sentence?"

Meaning (Cm) Comments that focus on the student's performance at the comprehension level.

Teacher reviews student's reading by drawing attention to self-correction of "sweet" read as "some." Teacher says, "When you read 'Grandpa likes to eat some things,' did it make sense to you?"

Oral reading (Cor) Comments that focus on student's oral reading performance.

Teacher refers student to a page of text that includes a question and says, "That was excel-

lent reading. I liked the way you used your voice like you're really asking a question."

Procedure (Cp) Comments that direct the lesson.

As student opens the book at the beginning of a session, teacher says, "You can start reading from there."

Modeling (M) Explicit sharing of the act with the intention of getting the student to employ behaviors.

Modeling oral reading (Mor) Teacher models how to read alone or through choral reading.

After student reads, teacher returns to a page that was difficult for the student. Teacher says, "Let's read this part together."

Telling (T) Comments made within the reading act that provide the reader with a word or an explanation of structure or meaning.

Visual (Tv) Teacher provides a word or words as the student reads orally.

Student reads, "The wolf slide down the chimney." Teacher says, "Slid. Slid down the chimney."

Structural (Ts) Teacher provides an explanation of a structural element as the student reads orally.

Student mentions People's Drugs (a store) in comparison to a word in the text. Teacher responds, "That (referring to possessive) means the drugs belong to somebody, to the people.

Meaning (Tm) Teacher provides an explanation of the meaning of a word as the student reads orally.

Student pauses after reading the word jerk. *Teacher says, "Do you know what that means? If somebody grabs you and you go like this (she demonstrates), you* jerk *yourself away."*

Discussing (D) Talk about the text occurring during the story introduction or as the child reads the book to focus attention on the meaning of the story.

Prior knowledge (Dpk) Teacher elicits student experiences to activate prior knowledge.

As part of the story introduction to Wet Grass, *the teacher says, "Did you walk in the grass after it rained this weekend? What was it like?"*

Story (Ds) Talk about the plot, characters, or other elements of the story.

Before beginning The Kick-a-lot Shoes, *the teacher asks, "Do you remember what the witch did in this story?"*

Vocabulary (Dv) Talk about story vocabulary.

During the story introduction the teacher explains, "This is a story about two children and their mom. In this story they don't say 'Mom.' They call their mother 'Mum' because this was written in another country."

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NRRC National Reading Research Center

318 Aderhold, University of Georgia, Athens, Georgia 30602-7125
2102 J. M. Patterson Building, University of Maryland, College Park, MD 20742